



# Stop Stealing Sheep

& find out how type works



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- *Type is everywhere*
- *What is type?*
- *Looking at type*
- *Type with a purpose*
- *Type builds character*
- *Types of type*
- *How it works*
- *Putting it to work*
- *There is no bad type*

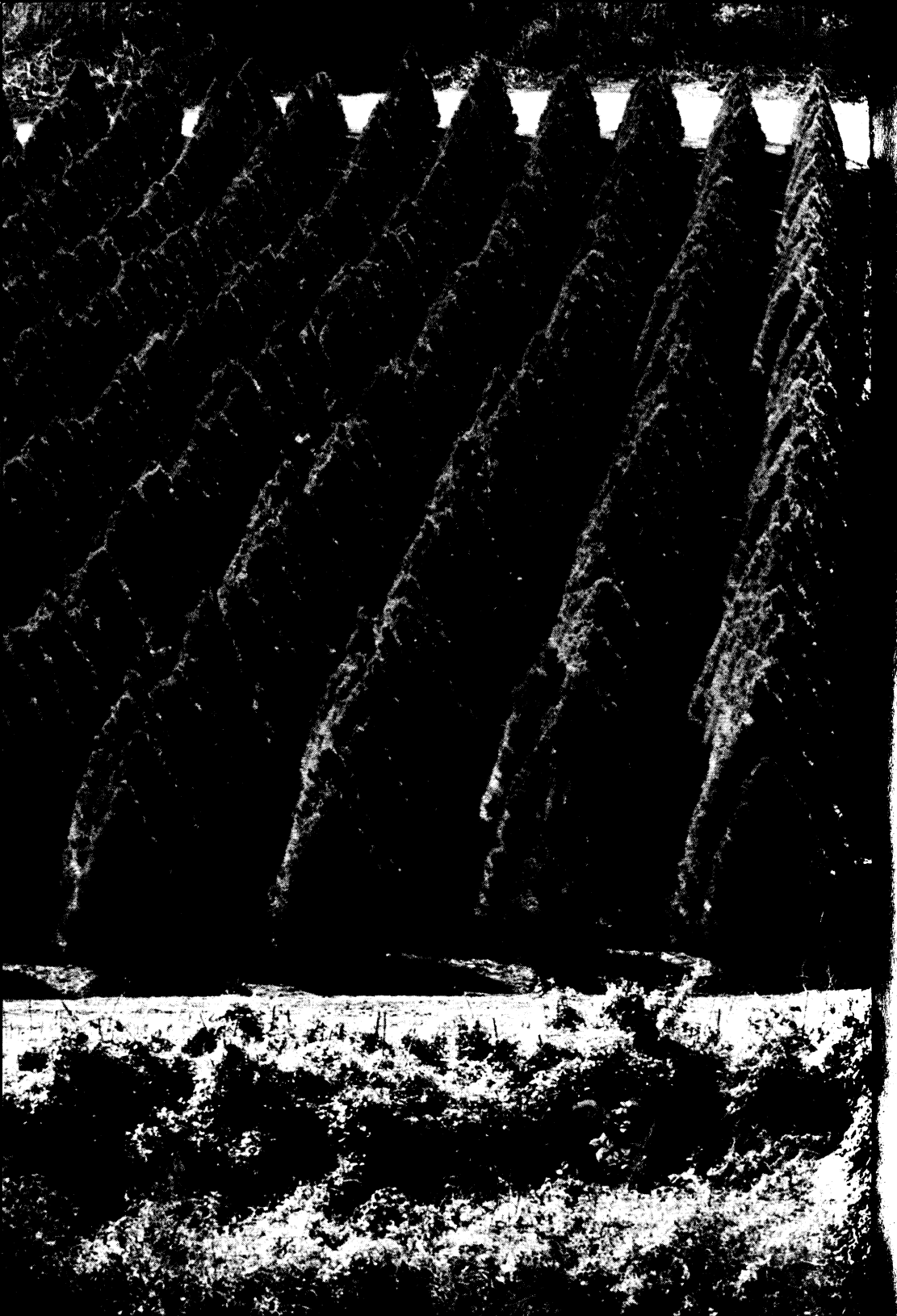
FREDERIC GOUDY

Anyone who would letterspace  
lower case would steal sheep.

Frederic Goudy (1894–1945),  
American typographer and type  
designer, did not design his first  
typeface until he was forty-five.  
He is noted for his profusion of  
innovative and eclectic type  
designs and his forthright  
declarations on typographic  
issues.

CHAPTER 7

**How it works**



Tree farms are to forests what monospaced fonts are to real type.

Letters were originally invented to help communicate not high culture, but mundane things like the amount of goods delivered or their value in barter or currency. What began as individual signs representing real items developed into letters and alphabets.

Different cultures added to the typographic variety. For instance, the most common vowel sound in ancient languages was

also the the first letter of the alphabet.

The Phoenicians (ca. 1000 BC) called it aleph, the Greeks (ca. 500 BC), alpha, the Romans (ca. 50 BC) ah.

The Phoenicians had twenty-two letters in their alphabet; the Greeks added vowels, and the Romans developed the letters we still use today. All this time, people wrote either from right to left, or left to right, or top to bottom.

With such a mixed history, no wonder our alphabet looks so unbalanced. Anyone inventing a new alphabet today would doubtless be more practical and make letters more regular. There would be more obvious differences between some shapes, and no narrow letters such as *l* in the same alphabet with wide ones such as *m*.

One consequence of our letters having such complex yet delicate shapes is that we have to respect their space. Every one of them needs enough room on both sides to avoid clashes with its neighbors. The smaller the type, the more space that's needed on the sides. Only big, robust headlines can have the occasional letter very close to the next one.

Himdgloves

Himdgloves

In monospaced typewriter typefaces, every letter occupies the same lateral space: the *i* is stretched on the rack, while the *m* suffers claustrophobia. The most common measurements are 12 characters to the inch (12-pitch) or 10 to the inch (10-pitch).

The history of type is also a history of technical constraints. Mechanical typewriters gave us monospaced fonts. Each letter had the same amount of lateral space, regardless of its shape. Later developments led to fonts with more regular letter shapes; this did not necessarily improve legibility, but these alphabets no longer had any gaps between characters. They also appear extremely readable to computers, who don't care that much about tradition.

As soon as typewriters got little computers inside them, they were able to set justified text (lines of the same length), a style which was, and is, totally unnecessary in office communication. But people had learned from reading newspapers, magazines, and books that this was how type should be set.

Now technology allows us to typeset most of the alphabets ever created and actually improve on their appearance, definition, and arrangement. Proportionately spaced fonts are easier to read, occupy less space, allow for more expression, and are nicer to look at. The only reason to still use monospaced fonts is to imitate the time-honored and personal look of typewriters.



Looking at nature, we imagine that God could have designed more practical forests than the ones we know: they are difficult to get around in, full of different kinds of trees in various stages of growth, and there's not enough light. Luckily, we humans are also part of this wonderful, if not entirely perfect system called nature; we like things that look "human" (less than perfect), but we also like that things conform to a master plan, even if it is indecipherable. We know when something looks "right" without ever having to measure it.

Unfortunately, people have long since begun improving on creation. We won't go into a discussion of inventions like nuclear power or low-fat dog food, but certainly tree farms are a good example of what some people think nature should look like. If we applied the same logic to type, we wouldn't have any unusual or eccentric designs, where every letter has a different shape and its own individual space. Instead there would only be regularized fonts with nice geometrically defined shapes. How mundane our typographic lives would be.

Unightly character combinations are remedied with kerning.

To Tr Ve Wo

BEFORE KERNING

To Tr Ve Wo

AFTER KERNING

There are sometimes unsightly gaps that occur between and around particular combinations of letters. Obvious problem letters are V, W, and Y in both capitals and lower case. Other bad gaps appear between numbers and periods or commas, particularly after a 7. (Just like this.)

Once you look into the relationship of two or more characters in a word, you realize what a mess it can be – not unlike other relationships. One of the most often-spoken words in desktop typography makes its appearance at this point: *kerning*. To get rid of these gaps, one simply removes the space (or maybe adds it) between the offending pair of letters. A certain number of these problem combinations are adjusted by the type designer; they are known as "kerning pairs" and are included in font programs.

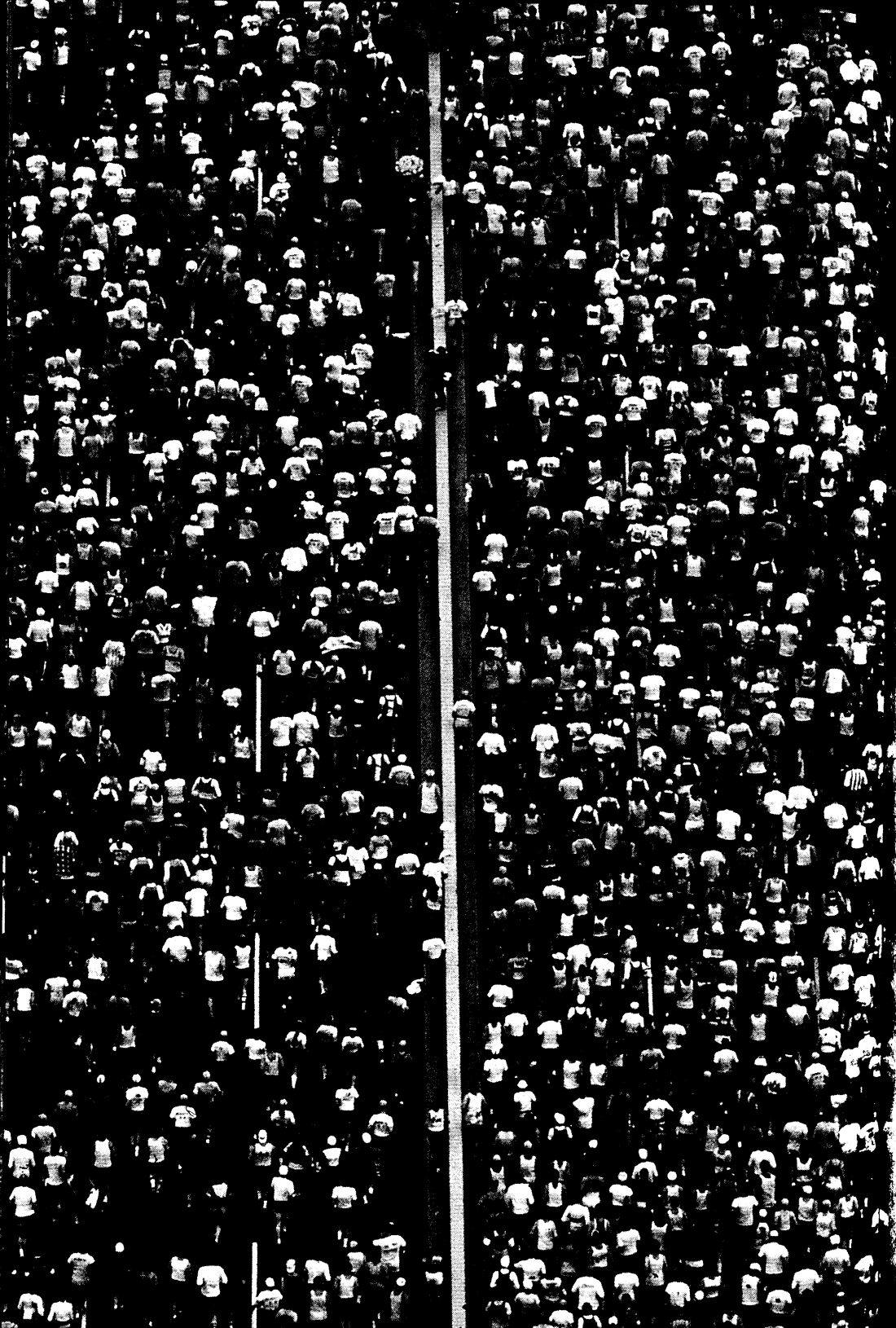
*Tracking* controls the space between letters globally; this means that equal amounts of space can be added between every letter in your text. It is here that Mr. Goudy's dictum reminds us of the impending danger: as the space between letters increases, so does the difficulty comprehending single words, and thus the thoughts conveyed in our text.

r. y, 7. w -

BEFORE KERNING

r. y, 7. w-

AFTER KERNING



Letters, like trees, hardly ever appear by themselves. As soon as there are a bunch of letters gathered together, they fight for space, for the right to be recognized, to be read. If you plant trees too close together, they'll struggle to get light and for space for their roots to expand; the weaker ones will stop growing and eventually die.

Before this turns into a tale of typographic Darwinism, let's look at the practical consequences as far as this book and its typographic subject is concerned. If you know your text is going to be fairly long and that it will require some time to read, you should adjust the layout accordingly. The lines should be long enough to get complete thoughts into them and there ought to be enough space between them to be able to finish reading one line before your eye gets distracted by the next.

Marathon runners know they have twenty-six miles ahead of them, so it would be foolish to start off like crazy. There is also no need to run in narrow tracks, since by the time everybody gets settled into the race there will be plenty of room, with the first runners miles away from the last ones. With thousands of people in the race, individuals will blend into the crowd, but they still have to give their best.

If time be of all things the most precious, wasting time must be the greatest prodigality; since lost time is never found again, and what we call time enough always proves little enough. Let us then be up and doing, and doing to a purpose, so by diligence we should do more with less perplexity. Sloth makes all things difficult, but industry all things easy. He that riseth late must trot all day and shall scarce overtake the business at night; while laziness travels so slowly that poverty soon overtakes him. Sloth, like rust, consumes faster than labor wears, while the used key is always bright. Do not squander time, for that's the stuff


Long texts require a setting not unlike the way a marathon is run. Everything has to be comfortable – once you've found your rhythm, nothing must disturb it again. If you have text that is going to require long-distance reading, design it so the reader has a chance to settle in. The rhythm depends on the spacing contingencies below.

Letters need to be far enough apart to be distinguished from one another, but not so far that they separate into individual, unrelated signs. Mr. Goudy knew what he was talking about.

Word spaces have to be gauged so the reader is able to see individual words, but also to group them together for quick comprehension.

The space between lines of type has to be generous enough to prevent the eye from slipping to the next line before it is finished gathering information in the current one.

The text below has been set for comfortable long-distance reading.



What did people do before there was the instant replay? The 100-yard dash is over in less than ten seconds these days, and we can't possibly look at each of the six or more contestants by the time they're across the line.

Does that sound like thumbing through a magazine, with all those ads flashing by your eyes in split seconds? That's typography at its most intense. If you want to make an impression in an ad, you can't wait for the readers to get settled in, and there is no space to spread your message out in front of their eyes. The sprinter has to hurl forward, and stay in a narrow lane. In short-distance text, lines have to be short and compact or the reader's eye will be drawn to the next line before reaching the end of the previous one.

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The above text has been tuned for sprint reading. Compare the long-distance text from the previous page.

Setting text in short lines for quick scanning requires rearrangement of all the other parameters, too. Tracking can be tighter, and word spaces and line spaces smaller.

The choice of typefaces is, of course, another consideration. A type that invites you to read long copy has to be inconspicuous and self-effacing, confirming our acquired prejudice about what is readable. A quick look at a short piece of writing could be assisted by a typeface that has a little verve. It shouldn't be as elaborate as a display font used on a label or a poster, but it also doesn't need to be too modest.



The tricky thing about space is that it is generally invisible and therefore easy to ignore. At night you can see only as far as the headlights of your car can shine. You determine your speed by the size of the visible space in front of you.

While driving on freeways isn't quite as exhausting as running a marathon (mainly because you get to sit down in your car), it requires a similar mind-set. The longer the journey, the more relaxed your driving style should be. You know you're going to be on the road for a while, and it's best not to get too nervous, but sit back, keep a safe distance from the car in front of you, and cruise.

Long-distance reading needs a relaxed attitude, too. There is nothing worse than having to get used to a different set of parameters every other line: compare it to the jarring effect of a fellow motorist who suddenly appears in front of you, having jumped a lane just to gain twenty yards. Words should also keep a safe, regular distance from each other, so that you can rely on the next one to appear when you're ready for it.

It used to be a rule of thumb for headline settings to leave a space between words that is just wide enough to fit in a lowercase *i*. For comfortable reading of long lines, the space between words should be much wider. The default settings in most software vary these values, but the normal 100 percent word space seems just fine for lines of at least ten words (or just over fifty characters). Shorter lines always require tighter word space (more about that on the following page).

## The way to wealth

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A lowercase *i* makes a nice word space for headlines. Short lines should have modest space between the words.





You must have noticed that the lanes on the freeway are wider than those on city streets, even though cars are the same size on both types of roads. But when traveling at high speeds, every movement of the steering wheel can cause a major deviation from the straight lane you're supposed to be driving in, posing a threat to other drivers.

This is, in typographic words, not the space between words, but that between lines – the lanes that words drive in. Typographic details and refinement relate to everything else; if you increase your word space, you have to have more space between the lines as well.

One rule to remember about line space is that it needs to be larger than the space between words, otherwise your eye would be inclined to travel from the word on the first line directly to the word on the line below. When line space is correct your eye will first make the journey along one line before it continues on to the next.

The rest is very simple: the more words per line, the more space needed between the lines. You can then increase the space *ever so slightly* between the letters (that is, track them) as the lines get longer.

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The miracle of computers has enabled line spaces to be adjusted in very small increments. In this example, none

of the other parameters has changed – tracking and word space remain the same but the line space increases.

Notice how the more widely spaced lines cry out for looser tracking and wider word spaces.





In both life and typography, the object is to get safely and quickly from A to B. What is safe at sixty miles an hour on a straight free-way with four lanes in good daylight would be suicide in city traffic. You have to adjust your driving to the road conditions, and you have to adjust typographic parameters to the conditions of the page and the purpose of the message.

Whether you're driving along looking at the scenery, or stuck in a traffic jam, or slowly moving from one set of lights to the next, you have to be conscious of the drivers around you. If they change their behavior, you have to react. When you learn the rules and have had a little practice, nothing will upset you, not in traffic and not in typography.

Longer lines need wider spaces: in these examples, line space, tracking, and word spaces have all been increased as the lines got wider.

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One of the best ways to keep the reader's attention on the content of your message is to keep the color of the printed text consistent. Newspapers do a very bad job of it. They agree that type, even in narrow columns, has to be justified. The result is words and lines that are erratically letter-spaced. Readers have become used to that style (or rather, lack of it); loose and tight lines of type, one after another, don't seem to upset anyone.

In other surroundings, however, lines that look a little lighter and then a little darker because no one has adjusted the spacing might make the reader think there is some purpose behind this arrangement: are the loose lines more important than the tight ones?

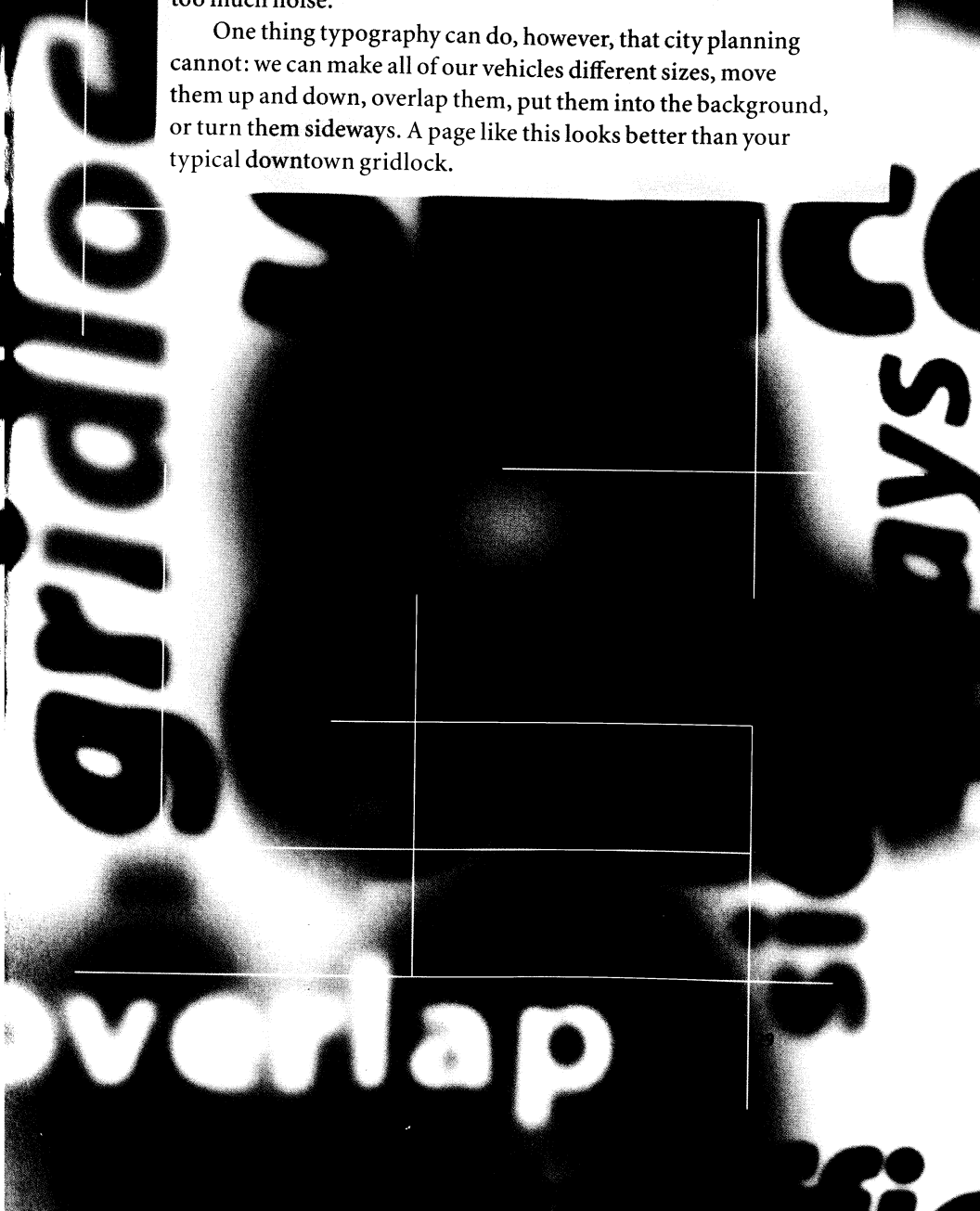
Again, and there is no guarantee this is the last time: every time you change one spacing parameter, you have to look closely at all the others and adjust them accordingly.

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There are situations, and this really is the final car picture, in which normal rules don't apply. Space becomes a rare commodity indeed when thousands of people are trying to get to the same place at the same time. Some pages are just like a downtown traffic jam: too many messages, too many directions, and too much noise.

One thing typography can do, however, that city planning cannot: we can make all of our vehicles different sizes, move them up and down, overlap them, put them into the background, or turn them sideways. A page like this looks better than your typical downtown gridlock.



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This copy is set to the same specifications as the second example on page 131, but reversed out.

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In reversed-out settings, the spaces between letters look smaller, because they are dark. This text is set with the letterspacing (tracking) more open than the example above.

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White type looks heavier than black type (dark color recedes, bright colors come forward), so we created an instance of Minion multiple master that was lighter in weight.

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Often the problem is not that white type looks too heavy, but that the ink-spread from the printing process fills in the open spaces in and around letters. We have chosen a smaller optical size of Minion multiple master to make it a little sturdier.

1

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2

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4

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For comparison among the various settings, the horizontal and vertical scales are broken down into millimeter units.

The first example has approximately 4 words (25 characters) per line and is set in 8-point type with 9-point line space (set 8 on 9); word spaces are very small and tracking is very loose. The second example accommodates 8 words

(45 characters), is set 8 on 8; word spaces are 10 percent wider and tracking is loose. The third block of text is set 8 on 11, with about 10 words (58 characters) to a line; the word space is opened another 10 percent, and the tracking is a little

tighter. The fourth text block is set 8 on 12, and with 15 words (90 characters), which is almost too wide. The word spaces are now at the default value, with a little tracking.